Pflügers Archiv
European Journal of Physiology

Vol. 428 1994

Field Editors

C. A. R. Boyd, Oxford
G. ten Bruggencate, München
E. E. Carmeliet, Leuven
R. Casteels, Leuven
P. Cerretelli, Geneva
H. Collewijn, Rotterdam
A. Doucet, Paris
E. Frömter, Frankfurt (Main)
P. Gaehtgens, Berlin
D. V. Gallacher, Liverpool
P. Grafe, München
R. Greger, Freiburg
W. Hasselbach, Heidelberg
J. Heller, Prag
U. Hopfer, Cleveland, OH
M. Imai, Tochigi
J. Molgó, Gif-sur-Yvette
H. Murer, Zürich
E. Neher, Göttingen
B. Nilius, Leuven
R. S. Reneman, Maastricht
D. W. Richter, Göttingen
B. C. Rossier, Lausanne
D. O. Schlondorff, München
E. Simon, Bad Nauheim
P. Stanfield, Leicester
T. Tomita, Nagoya
A. Trzebski, Warsaw
W. Ulbricht, Kiel
W. van Driessche, Leuven
R. Weingart, Bern
J. A. Young, Sydney

Subject Editors

E. Gerlach, München
P. Deetjen, Innsbruck
O. Pompeiano, Pisa
O. H. Petersen, Liverpool

Coordinating Editor

K. Thurau, München

Springer International

Pflügers Archiv · European Journal of Physiology

Founded in 1868 as „Pflügers Archiv für die gesamte Physiologie des Menschen und der Tiere" by *E. F. W. Pflüger.* Edited by *M. Verworn, E. Abderhalden, A. Bethe, R. Höber, A. v. Muralt, H. Rein* et al.

Published: Vol. 1–29 (1876) Cohen und Sohn, Bonn; Vol. 30–92 (1901) E. Strauß, Bonn; Vol. 93–170 (1917) M. Hager, Bonn; since Vol. 171 (1918) Springer, Berlin.

Since 1920 Pflügers Archiv has included: „Archiv für Physiologie" (Archiv für Anatomie und Physiologie, Physiologische Abteilung). Founded and edited by Johannes Müller, E. du Bois-Reymond, W. v. Waldeyer-Hartz et al. 1877–1914. Veit und Co., Leipzig, since 1915, Vereinigung Wissenschaftlicher Verleger, afterwards Walter de Gruyter, Berlin.

Copyright

Submission of a manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, review, or thesis); that it is not under consideration for publication elsewhere; that its publication has been approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out; that, if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher; and that the manuscript will not be published elsewhere in any language without the consent of the copyright holders.

All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (e.g., as offprints), as well as all translation rights. No material published in this journal may be reproduced photographically or stored on microfilm, in electronic data bases, video disks, etc., without first obtaining written permission from the publisher.

The use of general descriptive names, trade names, trademarks, etc., in this publication, even if not specifically identified, does not imply that these names are not protected by the relevant laws and regulations.

While the advice and information in this journal is believed to be true and accurate at the date of its going to press, neither the authors, the editors, nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Special regulations for photocopies in the USA

Photocopies may be made for personal or in-house use beyond the limitations stipulated under Section 107 or 108 of U.S. Copyright Law, provided a fee is paid. All fees should be paid to the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, USA, stating the ISSN 0302-8933, the volume, and the first and last page numbers of each article copied. The copyright owner's consent does not include copying for general distribution, promotion, new works, or resale. In these cases, specific written permission must first be obtained from the publisher.

Other regulations

Authors publishing in this journal can, under certain conditions, benefit from library and photocopy fees collected by VG WORT. Authors of German nationality and those resident in the Federal Republic of Germany or Berlin (West), as well as citizens of Austria, Switzerland and member countries of the European Community, may apply to Verwertungsgesellschaft WORT, Abteilung Wissenschaft, Goethestrasse 49, D-80336 München, Germany, for detailed information.

Springer-Verlag Berlin Heidelberg New York

Printers: Wiesbadener Graphische Betriebe GmbH, Wiesbaden

© Springer-Verlag GmbH & Co. KG, Berlin Heidelberg 1994

Printed in Germany

Contents of volume 428

No. 1 (pp 1– 96) published August 1, 1994
No. 2 (pp 97–196) published September 1, 1994
No. 3–4 (pp 197–424) published October 4, 1994
No. 5–6 (pp 425–676) published October 17, 1994

This volume contains:

Abstracts of the Società Italiana di Fisiologia, XXI Riunione Primaverile (Spring Meeting) 29–31 March 1994, Firenze, Italy R1–R28

Albarwani S, Robertson BE, Nye PCG, Kozlowski RZ: Biophysical properties of Ca^{2+}- and Mg-ATP-activated K^+ channels in pulmonary arterial smooth muscle cells isolated from the rat 446
Allen ML → Hopkins WF
Allert N → Kunzelmann K
Ambudkar IS → Kaplan MD
Amiranoff B → Squires PE
Arnaudeau S, Leprêtre N, Mironneau J: Oxytocin mobilizes calcium from a unique heparin-sensitive and thapsigargin-sensitive store in single myometrial cells from pregnant rats 51
Ashcroft FM → Takano M
Atsma DE, Bastiaanse EML, Ince C, Laarse A van der: A novel two-compartment culture dish allows microscopic evaluation of two different treatments in one cell culture simultaneously. Influence of external pH on Na^+/Ca^{2+} exchanger activity in cultured rat cardiomyocytes 296
Austin C → Ramsey J

Balaskó M → Székely M
Balezina OP → Van der Kloot W
Barrett-Jolley R, Byrne N, Vincent A, Newsom-Davis J: Plasma from patients with seronegative myasthenia gravis inhibit nAChR responses in the TE671/RD cell line 492
Bastiaanse EML → Atsma DE
Bauer CK, Davison I, Kubasov I, Schwarz JR, Mason WT: Different G proteins are involved in the biphasic response of clonal rat pituitary cells to thyrotropin-releasing hormone 17
Baum BJ → Li J
Benders AAGM, Li J, Lock RAC, Bindels RJM, Wendelaar Bonga SE, Veerkamp JH: Copper toxicity in cultured human skeletal muscle cells: the involvement of Na^+/K^+-ATPase and the Na^+/Ca^{2+}-exchanger 461
Berrie CP, Elliott AC: Activation of protein kinase C does not cause desensitization in rat and rabbit mandibular acinar cells 163
Bezanilla F → Caputo C
Bier F → Schlack W
Bindels RJM → Benders AAGM
Bindels RJM → Rose UM
Bonnet P → Gebremedhin D
Bootman MD → Oike M
Bornstein JC → Kunze WAA
Bosseux C → Véry A-A
Boyett MR, Honjo H, Harrison SM, Zang W-J, Kirby MS: Ultra-slow voltage-dependent inactivation of the calcium current in guinea-pig and ferret ventricular myocytes 39
Branka J-E → Gomez J-P
Breuer WV → Kunzelmann K
Byrne N → Barrett-Jolley R

Cabantchik ZI → Kunzelmann K
Cannell MB → Cheng H
Caputo C, Perozo E, Bezanilla F: Chemical modification of squid axon K^+ channel -SH groups with the organic mercurial compound *p*-hydroxymercuriphenyl-sulfonic acid (PHMPS) 315
Caroppo R → Curci S
Carter TD, Ogden D: Acetylcholine-stimulated changes of membrane potential and intracellular Ca^{2+} concentration recorded in endothelial cells in situ in the isolated rat aorta 476
Casteels R → Oike M
Chang K-C → Hu C-T
Chen HI → Hu C-T
Cheng H, Cannell MB, Lederer WJ: Propagation of excitation-contraction coupling into ventricular myocytes 415
Christensen EI → Li J
Clamann HP → Lüscher C
Colledge WH → Cuthbert AW
Collins AJ → Savidge TC
Cook DI → Dinudom A
Cook DI → Komwatana P
Cottrell GA → Green KA
Couwenberg P → Rose UM
Cui Y → Josephson IR
Curci S → Debellis L
Curci S, Debellis L, Caroppo R, Frömter E: Model of bicarbonate secretion by resting frog stomach fundus mucosa. I. Transepithelial measurements 648
Cuthbert AW, MacVinish LJ, Hickman ME, Ratcliff R, Colledge WH, Evans MJ: Ion-transporting activity in the murine colonic epithelium of normal animals and animals with cystic fibrosis 508

Dahl S vom → Hallbrucker C
Dai Y → Li J
Davison I → Bauer CK
De Greef C → Nilius B
De Smedt H → Oike M
De Smet P, Oike M, Droogmans G, Van Driessche W, Nilius B: Responses of endothelial cells to hypotonic solutions: lack of regulatory volume decrease 94
Debellis L → Curci S
Debellis L, Iacovelli C, Frömter E, Curci S: Model of bicarbonate secretion by resting frog stomach fundus mucosa. II. Role of the oxyntopeptic cells 655
Della Bruna R → Schricker K
Dijkstra S, Lohrmann E, Van Kerkhove E, Steels P, Greger R: Effects of dinitrophenol on active-transport processes and cell membranes in the Malpighian tubule of *Formica* 150
Dinudom A → Komwatana P
Dinudom A, Young JA, Cook DI: Ion channels in the basolateral membrane of intralobular duct cells of mouse mandibular glands 202
Dobrowolski L → Kompanowska-Jezierska E
Droogmans G → De Smet P
Droogmans G → Nilius B
Droogmans G → Oike M
Dunlap K → Luebke JI
Dunne MJ → Squires PE

Ecke D → Koslowsky T
Eggermont J → Nilius B
Elliott AC → Berrie CP
England SK → Gebremedhin D
Erlij D → Van Driessche W
Ertel EA: Modulation of guanylate cyclase and phosphodiesterase by monovalent cations and nucleoside triphosphates in light-sensitive excised patches of rod outer segments 372
Eusebi F → Grassi F
Evans MJ → Cuthbert AW

Fahlke C → Häussler U
Falconer SWP → Green KA
Fenoglio-Preiser C → Xiong Z
Findlay JBC → Wilson GG
Fischer K-G → Köttgen M
Franzius D, Hoth M, Penner R: Non-specific effects of calcium entry antagonists in mast cells 433
Freeman TC → Savidge TC
Frömter E → Curci S
Frömter E → Debellis L
Fucile S → Grassi F
Furness JB → Kunze WAA
Furuya K, Furuya S, Yamagishi S: Intracellular calcium responses and shape conversions induced by endothelin in cultured subepithelial fibroblasts of rat duodenal villi 97
Furuya S → Furuya K

Gallacher DV → Tepikin AV
Gaymard F → Véry A-A
Gebremedhin D, Bonnet P, Greene AS, England SK, Rusch NJ, Lombard JH, Harder DR: Hypoxia increases the activity of Ca^{2+}-sensitive K^+ channels in cat cerebral arterial muscle cell membranes 621

Gekle M, Wünsch S, Oberleithner H, Silbernagl S: Characterization of two MDCK-cell subtypes as a model system to study principal cell and intercalated cell properties 157
Gerke V → Oike M
Gilbert JC → Mubagwa K
Götz K-H → Scholz H
Gomez J-P, Potreau D, Branka J-E, Raymond G: Developmental changes in Ca^{2+} currents from newborn rat cardiomyocytes in primary culture 241
Gordienko DV, Tsukahara H: Tetrodotoxin-blockable depolarization-activated Na^+ currents in a cultured endothelial cell line derived from rat interlobar arter and human umbilical vein 91
Grassi F, Fucile S, Eusebi F: Ca^{2+} signalling pathways activated by acetylcholine in mouse C2C12 myotubes 340
Gray PTA → Hassoni AA
Green KA, Falconer SWP, Cottrell GA: The neuropeptide Phe-Met-Arg-Phe-NH_2 (FMRFamide) directly gates two ion channels in an identified *Helix* neurone 232
Greene AS → Gebremedhin D
Greger R → Dijkstra S
Greger R → Köttgen M
Greger R → Koslowsky T
Greger R → Kunzelmann K
Greger R → Schumann S
Gruenert DC → Koslowsky T
Gruenert DC → Kunzelmann K
Guggenheim JA → Wigham CG
Guillemare E, Lazdunski M, Honoré E: CGRP-induced activation of K_{ATP} channels in follicular *Xenopus* oocytes 604

Häussinger D → Hallbrucker C
Häussler U, Rivet-Bastide M, Fahlke C, Müller D, Zachar E, Rüdel R: Role of the cytoskeleton in the regulation of Cl^- channels in human embryonic skeletal muscle cells 323
Hallbrucker C, Dahl S vom, Ritter M, Lang F, Häussinger D: Effects of urea on K^+ fluxes and cell volume in perfused rat liver 552
Hamann M → Scholz H
Hamann M → Schricker K
Hannekum A → Schneider M
Harder DR → Gebremedhin D
Harrison SM → Boyett MR
Hassoni AA, Gray PTA: The control of chloride conductance in rat parotid isolated acinar cells investigated by photorelease of caged compounds 269
Haxelmans S → Schlatter E
Hendriks R → Kunze WAA
Hickman ME → Cuthbert AW
Hirsch J → Schlatter E
Hodson SA → Wigham CG
Hombach V → Schneider M
Honjo H → Boyett MR
Honoré E → Guillemare E
Hopkins WF, Allen ML, Houamed KM, Tempel BL: Properties of voltage-gated K^+ currents expressed in *Xenopus* oocytes by mKv1.1, mKv1.2 and their heteromultimers as revealed by mutagenesis of the dendrotoxin-binding site in mKv1.1 382
Hoshino M → Kiba T
Hoth M → Franzius D
Houamed KM → Hopkins WF
Howden MEH → Nicholson GM
Hu C-T, Chang K-C, Kuo T-S, Chen HI: The correlation of cardiac mass with arterial haemodynamics of resistive and capacitive load in rats with normotension and established hypertension 533
Hug T → Koslowsky T
Hug T → Kunzelmann K
Hunter M → Robson L

Iacovelli C → Debellis L
Ince C → Atsma DE
Inooka G → Tomita Y
Inoue S → Kiba T
Ishikawa T, Murakami M, Seo Y: Basolateral K^+ efflux is largely independent of maxi-K^+ channels in rat submandibular glands during secretion 516
Itoh A, Ueda S, Okada Y: Histamine modulates three types of K^+ current in a human intestinal epithelial cell line 468

Jansen JWCM → Rose UM
Josephson IR, Cui Y: Voltage- and concentration-dependent effects of lidocaine on cardiac Na channel and Ca channel gating charge movements 485
Jost M → Oike M
Joyner RW → Kumar R

Kabbara AA, Stephenson DG: Effects of Mg^{2+} on Ca^{2+} handling by the sarcoplasmic reticulum in skinned skeletal and cardiac muscle fibres 331
Kaplan MD, Taylor SE, Ambudkar IS: G-Protein- and capacitatively regulated Ca^{2+} entry pathways are activated by muscarinic receptor stimulation in a human submandibular ductal cell line 439
Kiba T, Tanaka K,, Numata K, Hoshino M, Inoue S: Facilitation of liver regeneration after partial hepatectomy by ventromedial hypothalamic lesions in rats 26
Kirby MS → Boyett MR
Kizaki T → Yamashita H
Klein P → Koslowsky T
Köttgen M, Leipziger J, Fischer K-G, Nitschke R, Greger R: pH regulation in HT_{29} colon carcinoma cells 179
Kompanowska-Jezierska E, Dobrowolski L, Sadowski J: Role of vasopressin V2 receptors in modulation of the renal cortico-papillary NaCl gradient 410
Komukai K, Kurihara S: Effects of adenosine on Ca^{2+} transients and tension in aequorin-injected ferret papillary muscles 357
Komulainen J, Vihko V: Exercise-induced necrotic muscle damage and enzyme release in the four days following prolonged submaximal running in rats 346
Komwatana P, Dinudom A, Young JA, Cook DI: Characterization of the Cl^- conductance in the granular duct cells of mouse mandibular glands 641
Koslowsky T → Kunzelmann K
Koslowsky T, Hug T, Ecke D, Klein P, Greger R, Gruenert DC, Kunzelmann K: Ca^{2+}- and swelling-induced activation of ion conductances in bronchial epithelial cells 597
Kozlowski RZ → Albarwani S
Kressin K → Steinhäuser C
Kubasov I → Bauer CK
Kubitz R → Kunzelmann K
Kumar R, Joyner RW: An experimental model of the production of early after depolarizations by injury current from an ischemic region 425
Kunze WAA, Bornstein JC, Furness JB, Hendriks R, Stephenson DSH: Charybdotoxin and iberiotoxin but not apamin abolish the slow after-hyperpolarization in myenteric plexus neurons 300
Kunzelmann K → Koslowsky T
Kunzelmann K, Allert N, Kubitz R, Breuer WV, Cabantchik ZI, Normann C, Schumann S, Leipziger J, Greger R: Forskolin and PMA pretreatment of HT_{29} cells alters their chloride conductance induced by cAMP, Ca^{2+} and hypotonic cell swelling 76
Kunzelmann K, Koslowsky T, Hug T, Gruenert DC, Greger R: cAMP-dependent activation of ion conductances in bronchial epithelial cells 590
Kuo T-S → Hu C-T
Kuprijanova E → Steinhäuser C
Kurihara S → Komukai K
Kurtz A → Scholz H
Kurtz A → Schricker K

Laarse A van der → Atsma DE
Laburn H → Pillay V
Lamontagne D → Nakhostine N
Lang F → Hallbrucker C
Lazdunski M → Guillemare E
Lazowski KW → Li J
Lederer WJ → Cheng H
Leipziger J → Köttgen M
Leipziger J → Kunzelmann K
Leipziger J → Schlatter E
Leipziger J → Schumann S
Leprêtre N → Arnaudeau S
Li J → Benders AAGM
Li J, Nielsen S, Dai Y, Lazowski KW, Christensen EI, Tabak LA, Baum BJ: Examination of rat salivary glands for the presence of the aquaporin CHIP 455
Llopis J → Tepikin AV
Lock RAC → Benders AAGM
Lohrmann E → Dijkstra S
Lombard JH → Gebremedhin D
Luebke JI, Dunlap K: Sensory neuron N-type calcium currents are inhibited by

both voltage-dependent and -independent mechanisms 499
Lüscher C, Clamann HP, Lüscher H-R: Practical guidance for testing the accuracy of deconvolution results from quantal analysis 418
Lüscher H-R → Lüscher C

MacFarlane NG, Miller DJ: Effects of the reactive oxygen species hypochlorous acid and hydrogen peroxide on force production and calcium sensitivity of rat cardiac myofilaments 561
MacVinish LJ → Cuthbert AW
Markovich D → Norbis F
Maruyama Y → Tomita Y
Mary DASG → Vacca G
Mason WT → Bauer CK
Mathie A → Watkins CS
Mayel-Afshar S → Savidge TC
Mealing G, Morley P, Whitfield JF, Tsang BK, Schwartz J-L: Granulosa cells have calcium-dependent action potentials and a calcium-dependent chloride conductance 307
Miller DJ → MacFarlane NG
Mironneau J → Arnaudeau S
Missiaen L, Oike M, Bootman MD, De Smedt H, Parys JB, Casteels R: Vasopressin responses in electrically coupled A7r5 cells 283
Molgó J → Van der Kloot W
Morley P → Mealing G
Mubagwa K, Gilbert JC, Pappano AJ: Differential time course for desensitization to muscarinic effects on K^+ and Ca^{2+} channels 542
Müller D → Häussler U
Murakami M → Ishikawa T
Murer H → Norbis F

Nagasawa J-i → Yamashita H
Nakhostine N, Lamontagne D: Contribution of prostaglandins in hypoxia-induced vasodilatation in isolated rabbit hearts. Relation to adenosine and K_{ATP} channels 526
Narahashi T → Nicholson GM
Naves LA → Van der Kloot W
Newsom-Davis J → Barrett-Jolley R
Nicholson GM, Willow M, Howden MEH, Narahashi T: Modification of sodium channel gating and kinetics by versutoxin from the Australian funnel-web spider *Hadronyche versuta* 400
Nielsen S → Li J
Nilius B → De Smet P
Nilius B → Oike M
Nilius B, Sehrer J, Viana F, De Greef C, Raeymaekers L, Eggermont J, Droogmans G: Volume-activated Cl^- currents in different mammalian non-excitable cell types 364
Nitschke R → Köttgen M
Norbis F, Perego C, Markovich D, Stange G, Verri T, Murer H: cDNA cloning of a rat small-intestinal Na^+/SO_4^{2-} cotransporter 217
Normann C → Kunzelmann K
Numata K → Kiba T
Nye PCG → Albarwani S

Oberleithner H → Gekle M
Ogden D → Carter TD
Oh-ishi S → Yamashita H
Ohno H → Yamashita H
Oike M → De Smet P
Oike M → Oike M
Oike M, Schwarz G, Sehrer J, Jost M, Gerke V,Weber K, Droogmans G, Nilius B: Cytoskeletal modulation of the response to mechanical stimulation in human vascular endothelial cells 569
Okada Y → Itoh A
O'Neill CA → Wilson GG

Pappano AJ → Mubagwa K
Parys JB → Oike M
Paton JFR, Ramirez J-M, Richter DW: Functionally intact in vitro preparation generating respiratory activity in neonatal and mature mammals 250
Penner R → Franzius D
Perego C → Norbis F
Perozo E → Caputo C
Petersen OH → Tepikin AV
Petersen OH → Thorn P
Pillay V, Savage N, Laburn H: Circulating cytokine concentrations and cytokine production by monocytes from newborn babies and adults 197
Piper HM → Schlack W
Potreau D → Gomez J-P
Proebstle T → Schneider M

Raeymaekers L → Nilius B
Ramirez J-M → Paton JFR
Ramsey J, Austin C, Wray S: Differential effects of external pH alteration on intracellular pH in rat coronary and cardiac myocytes 674
Ratcliff R → Cuthbert AW
Raymond G → Gomez J-P
Richter DW → Paton JFR
Ritter M → Hallbrucker C
Rivet-Bastide M → Häussler U
Robertson BE → Albarwani S
Robson L, Hunter M: Volume regulatory responses in frog isolated proximal cells 60
Rohlicek V, Schmid A: Dual-frequency method for synchronous measurement of cell capacitance, membrane conductance and access resistance on single cells 30
Rose UM, Couwenberg P, Jansen JWCM, Bindels RJM, Van Os CH: Effects of substrate-free anoxia and veratridine on intracellular calcium concentration in isolated rat ventricular cardiomyocytes 142
Rüdel R → Häussler U
Rüdel R → Schneider M
Rusch NJ → Gebremedhin D

Sadowski J → Kompanowska-Jezierska E
Sato Y → Yamashita H
Savage N → Pillay V
Savidge TC, Smith MW, Mayel-Afshar S, Collins AJ, Freeman TC: Selective regulation of epithelial gene expression in rabbit Peyer's patch tissue 391
Schäfer M → Schlack W
Schäfer S → Schlack W
Schlack W, Uebing A, Schäfer M, Bier F, Schäfer S, Piper HM, Thämer V: Regional contractile blockade at the onset of reperfusion reduces infarct size in the dog heart 134
Schlatter E, Haxelmans S, Hirsch J, Leipziger J: pH dependence of K^+ conductances of rat cortical collecting duct principal cells 631
Schmid A → Rohlicek V
Schneider M, Proebstle T, Hombach V, Hannekum A, Rüdel R: Characterization of the sodium currents in isolated human cardiocytes 84
Scholz H, Hamann M, Götz K-H, Kurtz A: Role of calcium ions in the pressure control of renin secretion from the kidneys 173
Schricker K, Della Bruna R, Hamann M, Kurtz A: Endothelium derived relaxing factor is involved in the pressure control of renin gene expression in the kidney 261
Schumann S → Kunzelmann K
Schumann S, Greger R, Leipziger J: Flufenamate and Gd^{3+} inhibit stimulated Ca^{2+} influx in the epithelial cell line CFPAC-1 583
Schwartz J-L → Mealing G
Schwarz G → Oike M
Schwarz JR → Bauer CK
Sehrer J → Nilius B
Sehrer J → Oike M
Seifert G → Steinhäuser C
Sentenac H → Véry A-A
Seo Y → Ishikawa T
Shimada H → Tomita Y
Silbernagl S → Gekle M
Simard JM → Tewari K
Sivaprasadarao A → Wilson GG
Smith MW → Savidge TC
Snitsarev VA → Tepikin AV
Sperelakis N → Xiong Z
Squires PE, Amiranoff B, Dunne MJ: Intracellular Ca^{2+} signals in human-derived pancreatic somatostatin-secreting cells (QGP-1N) 275
Stange G → Norbis F
Steels P → Dijkstra S
Steinhäuser C, Kressin K, Kuprijanova E, Weber M, Seifert G: Properties of voltage-activated Na^+ and K^+ currents in mouse hippocampal glial cells in situ and after acute isolation from tissue slices 610
Stephenson DG → Kabbara AA
Stephenson DSH → Kunze WAA
Székely M, Szelényi Z, Balaskó M: Cholecystokinin participates in the mediation of fever 671
Szelényi Z → Székely M

Tabak LA → Li J
Takano M, Ashcroft FM: Effects of internal chloride on ATP-sensitive K-channels in mouse pancreatic β-cells 194
Tanaka K → Kiba T
Taylor SE → Kaplan MD
Tempel BL → Hopkins WF

Tepikin AV, Llopis J, Snitsarev VA, Gallacher DV, Petersen OH: The droplet technique: measurement of calcium extrusion from single isolated mammalian cells 664
Tewari K, Simard JM: Protein kinase A increases availability of calcium channels in smooth muscle cells from guinea pig basilar artery 9
Thämer V → Schlack W
Thibaud J-B → Véry A-A
Thorn P, Petersen OH: A voltage-sensitive transient potassium current in mouse pancreatic acinar cells 288
Tomita Y, Inooka G, Shimada H, Maruyama Y: Ca^{2+}-dependent unidirectional vesicular release detected with a carbon-fibre electrode in rat pancreatic acinar cell triplets 69
Tsang BK → Mealing G
Tsukahara H → Gordienko DV

Uebing A → Schlack W
Ueda S → Itoh A

Vacca G, Mary DASG, Vono P: The effect of distension of the stomach on coronary blood flow in anaesthetized pigs 127
Van der Kloot W, Balezina OP, Molgó J, Naves LA: The timing of channel opening during miniature endplate currents at the frog and mouse neuromuscular junctions: effects of fasciculin-2, other anti-cholinesterases and vesamicol 114
Van Driessche W → De Smet P
Van Driessche W, Erlij D: Cell swelling activates a poorly selective monovalent cation channel in the apical membrane of toad urinary bladder 1
Van Kerkhove E → Dijkstra S
Van Os CH → Rose UM
Veerkamp JH → Benders AAGM
Verri T → Norbis F
Véry A-A, Bosseux C, Gaymard F, Sentenac H, Thibaud J-B: Level of expression in *Xenopus* oocytes affects some characteristics of a plant inward-rectifying voltage-gated K^+ channel 422
Viana F→ Nilius B
Vihko V → Komulainen J
Vincent A → Barrett-Jolley R
Vono P → Vacca G

Wang XF, Zhu PH: Effect of activation of protein kinase C on excitation-contraction coupling in frog twitch muscle fibres 224
Watkins CS, Mathie A: Modulation of the gating of the transient outward potassium current of rat isolated cerebellar granule neurons by lanthanum 209
Weber K → Oike M
Weber M → Steinhäuser C
Wendelaar Bonga SE → Benders AAGM
Whitfield JF → Mealing G
Wigham CG, Guggenheim JA, Hodson SA: Sodium movement into and out of corneal endothelium 577
Willow M → Nicholson GM
Wilson GG, O'Neill CA, Sivaprasadarao A, Findlay JBC, Wray D: Modulation by protein kinase A of a cloned rat brain potassium channel expressed in *Xenopus* oocytes 186
Wray D → Wilson GG
Wray S → Ramsey J
Wünsch S → Gekle M

Xiong Z, Sperelakis N, Fenoglio-Preiser C: Isoproterenol modulates the calcium channels through two different mechanisms in smooth-muscle cells from rabbit portal vein 105

Yamagishi S → Furuya K
Yamashita H, Sato Y, Kizaki T, Oh-ishi S, Nagasawa J-i, Ohno H: Basic fibroblast growth factor (bFGF) contributes to the enlargement of brown adipose tissue during cold acclimation 352
Young JA → Dinudom A
Young JA → Komwatana P

Zachar E → Häussler U
Zang W-J → Boyett MR
Zhu PH → Wang XF

Subject index

A

Acclimation 352
4-Acetamido-4′-isothiocyanatostilbene-2,2′-disulfonic acid (SITS) 307
Acetylcholine 114, 163, 275, 288, 340, 476, 542, 604
Acetylcholine nicotinic receptor 340
ACh-evoked $[Ca^{2+}]_i$ signals 163
ACh-gated channels 340
Acid base regulation 674
Acidification cellular 631
Acidosis 631
Acinar cells 163, 288, 664
Action potentials 307
Activation kinetics 422
Activator of protein kinase C, 1-oleoyl-2-acetylglycerol 468
Active-transport processes 150
Adenosine 357, 526
Adenosine triphosphate 372, 446
Adenyl cyclase inhibition 604
Adenylate cyclase(cAMP/protein-kinase-A cascade 105
Adrenal renin m-RNA 261
Aequorin 357
Afterdepolarizations 425
After-hyperpolarization 300
Aldosterone 157
Alkaline phosphatase 391
Alkaline secretion 648
Amiloride 157, 232
Aminopeptidase 391
4-Aminopyridine 288
Angiotensin I 261
Angiotensin II 97, 173, 604
Anoxia 142
Anterior pituitary 17
Anthracene-9-carboxylate (A9C) 641
Anti-cholinesterases 114
Apamin 300
Apical membrane 1
Aquaporin CHIP 455
A7r5 cells 283
Arabidopsis thaliana 422
Arginine vasopressin 283, 410
Arrhythmias 425
Arsenazo III 224
Arterial haemodynamics 533
Arterial impedance 533
Astrocytes 97
ATP 97, 583, 597, 641
ATP depletion 142
ATP-sensitive K-channels 194
ATP-sensitive potassium channels 526
Atrial myocytes 542
Atropine 127
Australian funnel-web spider *Hadronyche versuta* 400
Autocrine mechanisms 352
Autoimmunity 492

B

B receptors of cholecystokinin 671
Ba^{2+} 9, 307, 508, 552, 641
Ba^{2+} current 39
BAPTA acetoxymethyl ester 97
Barium 60
Basic fibroblast growth factor (bFGF) 352
Basilar artery 9
Basolateral membrane 202
Basolateral voltage divider ratio 150
BAY K8644 9
Benzofuran isophtalate (SBFI) 461
Bicarbonate secretion 648, 655
Biophysical properties 446
Boltzmann function 9
Bradykinin 97, 597
Brain potassium channel 186
Brainstem slice 250
8-Br-cAMP 186